2015 WATER QUALITY REPORT

WE ARE PLEASED TO REPORT THAT YOUR TAP WATER MET ALL ENVIRONMENTAL PROTECTION AGENCY (EPA) AND STATE STANDARDS IN 2015.

Carmel Utilities

Carmel Utilities maintains the highest drinking water standards for the City of Carmel

Questions?

If you have any questions about this report or concerning your water utility, please contact Carmel Utilities at 317-571-2443 or go to the Utilities page on the City of Carmel website at www.carmel.in.gov

For maintenance concerns or questions about hydrants, taps or mains, call the water utilities operations facility at 317-733-2855.

EPA WaterSense

More information about contaminants and potential health effects can be obtained by calling the EPA's Safe Drinking Water Hotline at (800) 426-4791, or via the web at www.EPA.gov.

City of **Carmel** Utilities

JIM BRAINARD, MAYOR

One Civic Square, Carmel, IN 46032

Lead in Water

Carmel Utilities regularly tests drinking water for lead and takes steps in its treatment process to ensure corrosive elements do not result in elevated levels of lead in customer tap water. Lead exposure comes primarily from water service lines which extend from the water main to the home and/or from interior plumbing components. Homes built before 1950 are more likely to have lead pipes. Homes built before 1986 may have lead soldering. Carmel Utilities lead testing comes exclusively from homes most likely to have lead in its plumbing system. If you would like to determine if your home has lead in its plumbing components or service line, hire a licensed plumber who can best advise you.

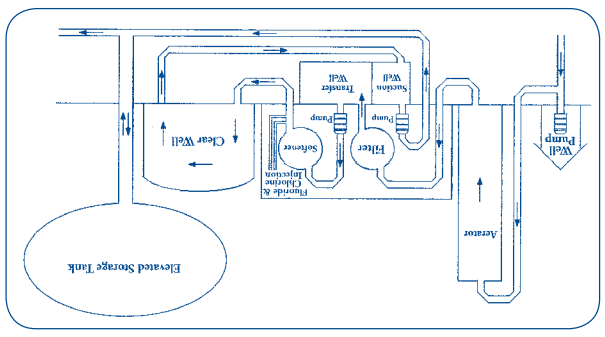
Lead in Home Plumbing

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. Carmel Utilities is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components.

When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested.

Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline or at http://www.epa.gov/safewater/lead.

Our 3-Step Water Treatment Process



1) Iron Removal The water treatment plant aerates the water to oxidize the soluble iron found naturally in well water. The oxidized iron adheres to itself forming clumps that are filtered out of the water by iron filters.

2) Water Softened Then, the iron filtered water passes through a process where the water is softened to 8 grains hardness, which is considered moderately hard water. Should you desire water that has been softened to zero (0) grains hardness, a home softener will be needed. During periods of extremely high summer water usage, the level of softening may be decreased to meet customer demand.

3) Chlorine and Fluoride Added Chlorine is added to destroy any harmful bacteria present and to maintain a level of protection as the water travels through the distribution system. Fluoride is added to help strengthen resistance to cavities in teeth. Following the injection of chlorine and fluoride, the water enters the distribution system to be delivered to Carmel's homes and businesses.

People with Compromised Immune Systems

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. EPA/CDC guidelines on appropriate means to lessen the risk of infection by cryptosporidium and other microbiological contaminants are available from the Safe Drinking Water Hotline (800-426-4791).

Source of Carmel Clay's water supply that comes from Citizens Water

White River supplies two of the four surface water treatment plants: White River and White River North. Morse Reservoir, near Noblesville, stores water to assure a dependable supply in the White River to these plants. Fall Creek is another surface water supply. Geist Reservoir stores water to assure adequate supply in Fall Creek for the Fall Creek Treatment Plant.

A number of wells are used intermittently to supplement the supplies to the White River, White River North, and Fall Creek plants. Citizens Water also receives some surface water from Eagle Creek Reservoir which supplies water to the T.W. Moses plant.

Currently Citizens Water has five groundwater stations that serve smaller portions of its service area. These are White River North, Geist Station, Harding Station, South Well Field, and Ford Road Plant. These groundwater stations treat water pumped from underground water sources called aquifers.

Groundwater Guardian

Educates people and inspires action to ensure sustainable, clean groundwater for future generations.

Hoosier Water Guardian Award

Awarded to communities who go above and beyond the state's requirements for protecting their drinking water supply.

Carmel's Water Supply Source

Carmel's water supply comes from a ground water source called an aquifer. The aquifer is commonly referred to as the Upper White River Basin Watershed. Eighteen wells located throughout the city pump water from the aquifer to five water plants for treatment. The production wells range in depth from 49 to 108 feet deep, are 10 to 36 inches in diameter, and have pumping capacities ranging from 175 to 2,800 gallons per minute.

2015 WATER QUALITY RESULTS

Carmel Utilities routinely monitors for constituents in your drinking water according to Federal and State laws. This table shows the results of our monitoring for the period of January 1st to December 31st, 2015.

As water travels over the land or underground, it can pick up substances or contaminants such as microbes, inorganic and organic chemicals, and radioactive substances. All drinking water, including bottled drinking water, may be reasonably expected to contain at least small amounts of some constituents. It's important to remember that the presence of these constituents does not necessarily pose a health risk.

REGULATED SUBSTANCES

SUBSTANCES (UNIT OF MEASURE)	YEAR SAMPLED	MCL (MRDL)	MCLG [MRDLG]	CARMEL WATER UTILITY PWSID# 5229004 SYSTEM WIDE	CARMEL WATER UTILITY PWSID# 5229004 RANGE LOW-HIGH	CARMEL-CLAY WATER UTILITY PWSID# 5229024 SYSTEM WIDE	CARMEL-CLAY WATER UTILITY PWSID# 5229024 RANGE LOW-HIGH	VIOLATIONS	TYPICAL SOURCE
Alachlor (ppb)	2015	3	3	ND		BDL	ND-0.70	NO	Herbicide runoff
Antimony (ppm)	2015	0.006	0.006	0.0023	0.0023	ND			Natural Deposits
Alpha Emitters (pCi/L)	2010	15	0	ND		NR	1.6-4.4	NO	Erosion of natural deposit
Arsenic (ppb)	2015	10	0	0.0017	0.0017	BDL	ND-2.5		Natural deposits
Atrazine (ppb)	2015	3	3	ND		0.33	ND-2.2	NO	Herbicide runoff
Barium (ppm)	2015	2	2	0.06	0.082-0.116	0.14	0.027-0.33	NO	Natural Deposits
Benzo[a]pyrene (ppb)	2015	0	0.2	ND		BDL	ND-0.040		
Beta/Photon Emitterrs (mrem/yr)	2010	4	0	ND			0.9-10.2	NO	Erosion of Natural Deposit
Chlorine (ppm)	2015	4	4	1.03	.36-1.46	1.5	ND-2.5	NO	Water additive used to control microbes
Chromium (ppb)	2015	100	100	BDL	ND-0.6	BDL	ND-3.3	NO	Natural deposits
Combined Radium (pCi/L)	2010	5	0				0.58-2.1	NO	Erosion of natural deposit
E. Coli	2015	1	0	0	0	0	0	NO	Human and animal fecal waste
Ethyl benzene (ppb)	2015	700	700	ND		BDL	ND-0.52	NO	Discharge from petroleum refineries
Fluoride (ppm)	2015	4	4	0.9	0.34-1.57	0.8	0.03-1.4	NO	Natural deposits and treatment additive
Haloacetic Acid [HAA] (ppb)	2015	60	NA	14.625	2.4-20.9	56	5.6-96	NO	By-product of chlorination treatment
Nitrate (ppm)	2015	10	10	BDL	BDL-0.2226	0.8	ND-5.4	NO	Fertilizers, septic tank leachate
Simazine (ppb)	2015	4	4	ND		BDL	ND-1.2	NO	Herbicide runoff
Toluene(ppb)	2015	1,000	1,000	ND		BDL	ND-1.4	NO	Discharge from petroleum refineries
Total Xylenes (ppb)	2015	10,000	10,000	ND		BDL	ND-2.3	NO	Discharge from petroleum refineries
TTHMs (Total Trihalomethanes)(ppb)	2015	80	NA	31.78	6.3-35.0	69	11-91	NO	By-Product of Chlorination Treatment
Total Coliform Bacteria (% positive samples)	2015	5		0%	0%	0.51%	0%-2.7%	NO	Naturally present in the environmen
Turbidity (NTU)	2015	1	NA		0.24 (max)		0.44 (max)	NO	Soil runoff
Turbidity (Lowest monthly percent of samples meeting limit)	2015	95% < 0.3			100%		99.6%	NO	Soil runoff–turbidity is a measurement of the cloudiness of the water caused by suspended particles. It is a good indicator of water quality and the effectiveness of our filtration.
Uranium (ppb)	2010	30	0	1.5	1.5-15		0.253-1.22	NO	Erosion of natural deposit
cis-1,2-Dichloroethylene (ppb)	2015	70	70	ND		ND		NO	Discharge from industrial sources
2,4-D (ppb)	2015	70	70	ND		BDL	ND-0.60	NO	Herbicide runoff
Tap water samples were collected for lead and copper analyses from samples sites throughout the community		AL	MCLG	CARMEL WATER UTILITY		CARMEL-CLAY WATER UTILITY			
Copper (ppm)	2014	1.3	1.3	0.156	0 of 30 > AL	0.49	1 of 53 > AL	NO	Corrosion of customers plumbing
Lead (ppb)	2014	15	0	2.3	0 of 30 > AL	8.3	1 of 53 > AL	NO	Corrosion of customers plumbing

SECONDARY SUBSTANCES

SUBSTANCES (UNIT OF MEASURE)	YEAR SAMPLED	MCL (MRDL)	MCLG [MRDLG]	AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATIONS	TYPICAL SOURCE
Aluminum (ppb)	2015	200		ND		24	ND-88	NO	Natural deposits and treatment additive
Chloride (ppm)	2015	250		ND		73	15-133	NO	Natural deposits and treatment additive
Hardness (grains/gal)	2015	NA		11	5-32	17	7-28	NO	Erosion of natural deposit; leaching
Iron (ppm)	2015	0.3		0.01	ND-0.09	BDL	ND-0.22	NO	Erosion of natural deposit; leaching
Manganese (ppm)	2015	0.05		0.014	ND-0.05	BDL	ND-0.024	NO	Erosion of natural deposit; leaching
Metolachlor (ppb)	2015	NA		ND		BDL	ND-0.80	NO	Herbicide runoff
Nickel (ppb)	2015	NA	100	BDL	ND-0.001	BDL	ND-2.8	NO	Erosion of natural deposit; leaching
pH (Units)	2015	6.5-8.5		7.67	7.01-8.18	7.64	7.04-8.29	NO	
Sodium (ppm)	2015	NA		150	78.4-207	39	10-132	NO	Erosion of natural deposit; leaching
Sulfate (ppm)	2015	250		ND		54	6-186	NO	Erosion of natural deposit; leaching
Zinc (ppb)	2015	5000		ND		BDL	ND-14	NO	Natural deposits

UNREGULATED SUBSTANCES

Alkalinity (ppm)	2015	NA		211	211-392			Water capacity to neutrilize acid
Calcium Carbonate (ppm)	2015	NA		153	80-320			Erosion of natural deposit; leaching
Chlorate (ppb)	2015	NA		ND		493	64-1800	Agricultural defolian or desiccant; disinfection byproduct
Chromium-6 (ppb)	2015	NA		BDL	ND-0.04	0.08	ND-0.41	Naturally-occurring element; used in making steel and other alloys; chromium-3 or -6 forms are used for chrome plating, dyes and pigments, leather tanning and wood preservation
Chlorodifluoromethane (ppm)	2015	NA		BDL	ND-0.09	ND		Commonly used as a propellant or refrigerant
Molybdenum (ppb)	2015	NA		4.2	3.1-5.8	3.9	2.2-8.5	Naturally-occurring element found in ores and present in plants, animals and bacteria; commonly used to form molybdenum trioxide used as a chemical reagent
Strontium (ppb)	2015	NA		125	50-260	227	110-510	Naturally-occurring element; historically, commercial use of strontium has been in the faceplate glass of cathode-ray tube televisions to black x-ray emissions
Vanadium (ppb)	2015	NA		ND		0.42	ND-1.3	Naturally-occurring element metal; used as vanadium pentoxide which is a chemical intermediate and a catalyst
1,4-Dioxane (ppb)	2015	NA		ND		0.074	ND-0.28	Cyclic alphatic ether; used as a solvent or solvent stabilizer in manufacture and processing of paper, cotton, textile products, automotive coolant, cosmetics and shampoos

UNTREATED SOURCE WATER DATA	CARMEL WATER UTILITY Plant 1 Flow Splitting Bldg.	CARMEL-CLAY WATER UTILITY White River, Fall Creek, T.W. Moses, White River North	
Cryptosporidium (org/10L)	<0.033- <0.095	1.0-4.0	
Giardia (org/10L)	<0.044- 0.067	ND-13	
TOC (ppm)	1.07 (0.76-1.91)	4.0 (2.7-7.7)	

DEFINITIONS

AL (Action Level) – The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

BDL (Below Detectable Limits) – laboratory analysis indicates the constituent is below detectable limits of the instruments and methods used to detect this constituent.

NA (Not Applicable) – not required to test for this constituent during the 2015 calendar year.

ND (Non-Detects) - laboratory analysis indicates that the constituent is not present.

PPM (Parts per million) - one part substance per million parts water (or milligrams per liter)

PPB (Parts per billion) - one part substance per billion parts water (or Micrograms per liter)

pCi/L (Picocuries per liter) - picocuries per liter is a measure of the radioactivity in water.

mrem/yr (Millirems per year) - measure of radiation absorbed by the body.

NTU (Nephelometric Turbidity Unit) - nephelometric turbidity unit is a measure of the clarity of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

TT (Treatment Technique) - A treatment technique is a required process intended to reduce the level of a contaminant in drinking water.

MCL (Maximum Contaminant Level) - The "Maximum Allowed" (MCL) is the highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.

MCLG (Maximum Contaminant Level Goal) - The "Goal" (MCLG) is the level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.

MRDL (Maximum Residual Disinfectant Level) – The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

MRDLG (Maximum Residual Disinfectant Level Goal) – The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.

Water Purity

INFORMATION PROVIDED BY UNITED STATES ENVIRONMENT PROTECTION AGENCY

All sources of drinking water are subject to potential contamination by substances that are naturally occurring or man made. These substances can be microbes, inorganic or organic chemicals and radioactive substances.

All drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that the water poses a health risk.

More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline at (800-426-4791).

Water Contaminants before Treatment

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of land or through the ground, it dissolves naturally occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity. Contaminants that may be present in source water include:

- Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.
- Inorganic contaminants, such as salts and metals, which can be naturally-occurring or result from urban storm runoff, industrial or domestic wastewater discharges, oil and gas production, mining or farming.
- Pesticides and herbicides, which may come from a variety of sources such as agriculture, storm water runoff, and residential uses.
- Organic chemicals, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban storm water runoff, and septic systems.
- Radioactive materials, which can be naturally occurring or be the result of oil and gas production and mining activities.

In order to ensure tap water is safe to drink, EPA prescribes regulations that limit the amount of certain contaminants in water provided by public water systems. Food and Drug Administration (FDA) regulations establish limits for contaminants in bottled water, which must provide the same protection for public health.

Testing for Cryptosporidium

Cryptosporidium is a microscopic organism that lives in the intestines of animals and people. When ingested this microscopic pathogen may cause a disease called cryptosporidiosis, which has flu-like symptoms. Although there has been no cryptosporidium found in treated, finished drinking water, cryptosporidium is found in source water such as White River, Fall Creek and Eagle Creek Reservoir. The U.S. EPA has created the Long Term 2 Enhanced Surface Water Treatment Rule (LT2) for the sole purpose of reducing illness linked with the contaminant Cryptosporidium and other disease-causing microorganisms in drinking water. The rule will bolster existing regulations and provide a higher level of protection of your drinking water supply.